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3400 Forest Pest Management

Functional Assistance Trip
Lake Kachees and Wish Poosh Campgrounds

Forest Supervisor of Wenatchee NF

On September 27, Gregory M. Filip, Plant Pathologist from Forest Pest Management, Regional Office, visited the Cle Elum Ranger District. Purpose of the visit was to examine hazard trees and discuss vegetative management in the Lake Kachees and Wish Poosh Campgrounds. He was accompanied by Ernie Wright, SO Tree Improvement Specialist stationed at Cle Elum, and Monty Bickford, SO Silviculturist.

Lake Kachees has 180 camping units and a large day use area. The campground is located in a stand of old-growth western hemlock and Douglas-fir. In some areas, abundant second-growth Pacific silver fir and hemlock are present. Some western redcedar also occurs. In many areas, coniferous reproduction and vine maple are abundant.

Most of the hazard is associated with the old-growth hemlock. Many trees have dead and dying tops, probably caused by severe infestations of dwarf mistletoe (*Arceuthobium tsugense*). Several hemlocks have large, old basal wounds and wounds on exposed roots, indicators of probable root and butt rot. Conks of *Fomes pini* and *Echinodontium tinctorium*, indicators of heartrot, were noted on some trees.

Douglas-fir appeared to be more thrifty than hemlock at Lake Kachees. However, some firs felled in the past and left in the campground had brown-cubical butt rot caused by *Polyporus schweinitzii*.

Most of the silver fir were younger than the hemlock or Douglas-fir. Silver fir appeared to be more thrifty than the hemlock. Some dwarf mistletoe (*A. tsugense*) was noted in understory silver fir beneath severely infected hemlocks. This mistletoe is one of the few species capable of damaging several tree species. In general, fewer infections were noted in silver fir understories than in hemlock understories.

A vegetative management plan currently is being developed for Lake Kachees Campground. We recommend that the following be considered when formulating this plan. A useful and systematic method for forming a vegetative management plan for developed recreation sites is available from the Regional Office Recreation Staff and has been used by several Forests in this Region (see enclosure, Willaby Management Plan). Specifically, any developed site should be divided into management units, and specific management direction and subsequent treatments should be formulated for each management unit. Where old-growth is a benefit to be retained, it should be perpetuated. Where

old-growth is a liability, it should be treated and replacement considered. Where hazard trees exist, treatment should be integrated with other silvicultural treatments for that management unit.

The vegetative management plan for Lake Kachees should consider species conversion of hemlock to silver fir or, preferably, Douglas-fir wherever possible. Hemlock in developed recreation sites is a short-lived species that is prone to severe decay and infestation by dwarf mistletoe leading to accelerated tree decline and death.

When the Lake Kachees vegetative management plan is completed, hazard trees should be identified and treated. Forest Pest Management pathologists are available to assist the District in identifying hazard trees.

Wish Poosh Campground is located on Cle Elum Lake and has 39 units. A portion of the campground, suspected of having root diseases, was examined. Two areas were examined that had pockets of dead and dying trees. Many trees felled in the past had evidence of butt rot. Closer examination of large, hollow stumps revealed fresh conks of *Fomes annosus*. Decayed wood was also typical of that decayed by *Fomes annosus*. Affected standing trees had poor crowns or dying tops. Only grand fir was affected; Douglas-fir and western redcedar often were standing and still alive within disease centers.

Fomes annosus spreads in two ways. It spreads through the air by spores released from conks in old stumps. Spores infect fresh stump tops or newly formed wounds. It also spreads underground by root contacts.

Underground spread rate is probably only 1 or 2 feet per year, but infection usually extends 50 to 100 feet beyond the outermost visibly affected tree or stump. Infected trees are often severely decayed at the butt and roots before crown symptoms become evident. Infected trees are more susceptible to fir engraver attack.

Root diseases are the most serious problem affecting the health and safety of both trees and targets in developed recreation sites. As such, treatment is often drastic and conflicts with site aesthetics. We recommend that root disease centers in Wish Poosh Campground be treated as follows. Remove all dead and dying grand fir within disease centers. Also, remove any grand fir within 50 feet of visibly affected trees. This will eliminate hosts for the fungus and potential hazard trees as well. All freshly cut stumps should be immediately covered with a layer of borax to prevent infection by airborne spores. Species found on the site such as Douglas-fir, cedar, or ponderosa pine can be retained if already present or planted within treated areas since these species are not affected by the strain of *Fomes annosus* affecting grand fir. This treatment should prevent spread of disease into adjacent healthy portions of the campground. Another alternative to tree removal would be closure of units within or adjacent to root disease centers. However,

disease centers may continue to enlarge into healthy portions of the campground. Forest Pest Management pathologists are available to assist the District in determining root disease center boundaries.

If Forest Pest Management can be of further service, please contact us.

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